

|                                                                                                                                                                                                                                                                                                                                                                   |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------|--------------|--------------|-----------|---------------|--------------|---------------------|---------------------|---------------------|---------------------|--------------|
| Model Number<br>3125-01A                                                                                                                                                                                                                                                                                                                                          | ROTARY TORQUE TRANSFORMER, SHAFT-SHAFT          |                                                   |                                                                                                                                                                                            |              | Revision NR<br>ECN #: |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Performance</b>                                                                                                                                                                                                                                                                                                                                                | <b>ENGLISH</b>                                  | <b>SI</b>                                         | <b>Optional Versions</b> (Optional versions have identical specifications and accessories as listed for standard model except where noted below. More than one option maybe used.)         |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Measurement Range (Full Scale Capacity)                                                                                                                                                                                                                                                                                                                           | 5000 in-lb                                      | 565 Nm                                            | <b>Notes</b><br>[1] Recommended 10 VAC RMS.<br>[2] FS - Full Scale.<br>[3] Over compensated operating temperature range.<br>[4] Nominal.<br>[5] See drawing 45891 for complete dimensions. |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Sensitivity (output at rated capacity)                                                                                                                                                                                                                                                                                                                            | 2.0 mV/V                                        | 2.0 mV/V                                          |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Non-Linearity                                                                                                                                                                                                                                                                                                                                                     | ≤0.1 % FS                                       | ≤0.1 % FS                                         |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Hysteresis                                                                                                                                                                                                                                                                                                                                                        | ≤0.1 % FS                                       | ≤0.1 % FS                                         |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Non-Repeatability                                                                                                                                                                                                                                                                                                                                                 | ≤0.05 % FS                                      | ≤0.05 % FS                                        |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Environmental</b>                                                                                                                                                                                                                                                                                                                                              |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Overload Limit                                                                                                                                                                                                                                                                                                                                                    | 10000 in-lb                                     | 1130 Nm                                           |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Range (Operating)                                                                                                                                                                                                                                                                                                                                     | 0 to 200 °F                                     | -18 to 93 °C                                      |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Range (Compensated)                                                                                                                                                                                                                                                                                                                                   | 70 to 150 °F                                    | 21 to 66 °C                                       |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Effect on Output (Maximum)                                                                                                                                                                                                                                                                                                                            | ±0.002<br>%Reading/°F                           | ±0.0018 %Reading/°C                               | [3]                                                                                                                                                                                        |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Effect on Zero Balance (Maximum)                                                                                                                                                                                                                                                                                                                      | ±0.002 %FS/°F                                   | ±0.0018 %FS/°C                                    | [3]                                                                                                                                                                                        |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Electrical</b>                                                                                                                                                                                                                                                                                                                                                 |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Bridge Resistance                                                                                                                                                                                                                                                                                                                                                 | 350 Ohm                                         | 350 Ohm                                           |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Excitation Voltage                                                                                                                                                                                                                                                                                                                                                | 20 VDC or VAC<br>rms                            | 20 VDC or VAC rms                                 | [1]                                                                                                                                                                                        |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Insulation Resistance                                                                                                                                                                                                                                                                                                                                             | >5 GOhm                                         | >5 GOhm                                           |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Zero Balance                                                                                                                                                                                                                                                                                                                                                      | ≤2 % FS                                         | ≤2 % FS                                           | [2]                                                                                                                                                                                        |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Bridge Current (at 5 VAC)                                                                                                                                                                                                                                                                                                                                         | 50 mA                                           | 50 mA                                             |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Physical</b>                                                                                                                                                                                                                                                                                                                                                   |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Size (Shaft Length x Housing Length x Housing Height x Shaft Diameter x Shaft Keyway)                                                                                                                                                                                                                                                                             | 11.00 in x 5.25 in x 4.50 in x 1.50 in x 3/8 in | 279.4 mm x 133.4 mm x 114.3 mm x 38.1 mm x 9.5 mm | [5]                                                                                                                                                                                        |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Weight                                                                                                                                                                                                                                                                                                                                                            | 9.5 lb                                          | 4.4 Kg                                            |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Mounting                                                                                                                                                                                                                                                                                                                                                          | Keyed Shaft                                     | Keyed Shaft                                       |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Sensing Element                                                                                                                                                                                                                                                                                                                                                   | Strain Gage                                     | Strain Gage                                       |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Housing Material                                                                                                                                                                                                                                                                                                                                                  | Aluminum                                        | Aluminum                                          |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Shaft Material                                                                                                                                                                                                                                                                                                                                                    | Alloy Steel                                     | Alloy Steel                                       |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Electrical Connector                                                                                                                                                                                                                                                                                                                                              | PT02H-10-6P                                     | PT02H-10-6P                                       |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Electrical Connection Position                                                                                                                                                                                                                                                                                                                                    | Top                                             | Top                                               |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Maximum Speed                                                                                                                                                                                                                                                                                                                                                     | 7900 RPM                                        | 7900 RPM                                          |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <p><i>All specifications are at room temperature unless otherwise specified.</i></p> <p>In the interest of constant product improvement, we reserve the right to change specifications without notice.</p> <p>ICP® is a registered trademark of PCB group, Inc.</p>                                                                                               |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <table><tr><td>Entered: BLS</td><td>Engineer: PE</td><td>Sales: JC</td><td>Approved: BLS</td><td>Spec Number:</td></tr><tr><td>Date:<br/>03/29/2010</td><td>Date:<br/>03/29/2010</td><td>Date:<br/>03/29/2010</td><td>Date:<br/>03/29/2010</td><td><b>45889</b></td></tr></table>                                                                                 |                                                 |                                                   |                                                                                                                                                                                            |              |                       | Entered: BLS | Engineer: PE | Sales: JC | Approved: BLS | Spec Number: | Date:<br>03/29/2010 | Date:<br>03/29/2010 | Date:<br>03/29/2010 | Date:<br>03/29/2010 | <b>45889</b> |
| Entered: BLS                                                                                                                                                                                                                                                                                                                                                      | Engineer: PE                                    | Sales: JC                                         | Approved: BLS                                                                                                                                                                              | Spec Number: |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Date:<br>03/29/2010                                                                                                                                                                                                                                                                                                                                               | Date:<br>03/29/2010                             | Date:<br>03/29/2010                               | Date:<br>03/29/2010                                                                                                                                                                        | <b>45889</b> |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <div><div>Company: PCB Load &amp; Torque, Inc.<br/>Address: 24350 Indoplex Circle<br/>Farmington Hills, MI 48335<br/>UNITED STATES<br/>Phone: 866-684-7107<br/>Fax: 716-684-0987<br/>E-mail: ltinfo@pcbloadtorque.com<br/>Web site: http://www.pcbloadtorque.com</div></div> |                                                 |                                                   |                                                                                                                                                                                            |              |                       |              |              |           |               |              |                     |                     |                     |                     |              |

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| Model Number<br>3125-02A                                                                                                                                                                                                                                                                                                                                                                                      | ROTARYTORQUE TRANSFORMER, STRAIN-STRAIN         |                                                   |                                                                                                                                                                                            | Revision NR<br>ECN #: |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Performance</b>                                                                                                                                                                                                                                                                                                                                                                                            | <b>ENGLISH</b>                                  | <b>SI</b>                                         | <b>Optional Versions</b> (Optional versions have identical specifications and accessories as listed for standard model except where noted below. More than one option maybe used.)         |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Measurement Range (Full Scale Capacity)                                                                                                                                                                                                                                                                                                                                                                       | 10000 in-lb                                     | 1130 Nm                                           | <b>Notes</b><br>[1] Recommended 10 VAC RMS.<br>[2] FS - Full Scale.<br>[3] Over compensated operating temperature range.<br>[4] Nominal.<br>[5] See drawing 45891 for complete dimensions. |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Sensitivity (output at rated capacity)                                                                                                                                                                                                                                                                                                                                                                        | 2.0 mV/V                                        | 2.0 mV/V                                          |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Non-Linearity                                                                                                                                                                                                                                                                                                                                                                                                 | ≤0.1 % FS                                       | ≤0.1 % FS                                         |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Hysteresis                                                                                                                                                                                                                                                                                                                                                                                                    | ≤0.1 % FS                                       | ≤0.1 % FS                                         |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Non-Repeatability                                                                                                                                                                                                                                                                                                                                                                                             | ≤0.05 % FS                                      | ≤0.05 % FS                                        |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Environmental</b>                                                                                                                                                                                                                                                                                                                                                                                          |                                                 |                                                   |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Overload Limit                                                                                                                                                                                                                                                                                                                                                                                                | 20000 in-lb                                     | 2260 Nm                                           |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Range (Operating)                                                                                                                                                                                                                                                                                                                                                                                 | 0 to 200 °F                                     | -18 to 93 °C                                      |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Range (Compensated)                                                                                                                                                                                                                                                                                                                                                                               | 70 to 150 °F                                    | 21 to 66 °C                                       |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Effect on Output (Maximum)                                                                                                                                                                                                                                                                                                                                                                        | ±0.002<br>%Reading/°F                           | ±0.0018 %Reading/°C                               | [3]                                                                                                                                                                                        |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Temperature Effect on Zero Balance (Maximum)                                                                                                                                                                                                                                                                                                                                                                  | ±0.002 %FS/°F                                   | ±0.0018 %FS/°C                                    | [3]                                                                                                                                                                                        |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Electrical</b>                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |                                                   |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Bridge Resistance                                                                                                                                                                                                                                                                                                                                                                                             | 350 Ohm                                         | 350 Ohm                                           |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Excitation Voltage                                                                                                                                                                                                                                                                                                                                                                                            | 20 VDC or VAC<br>rms                            | 20 VDC or VAC rms                                 | [1]                                                                                                                                                                                        |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Insulation Resistance                                                                                                                                                                                                                                                                                                                                                                                         | >5 GOhm                                         | >5 GOhm                                           |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Zero Balance                                                                                                                                                                                                                                                                                                                                                                                                  | ≤2 % FS                                         | ≤2 % FS                                           | [2]                                                                                                                                                                                        |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Bridge Current (at 5 VAC)                                                                                                                                                                                                                                                                                                                                                                                     | 50 mA                                           | 50 mA                                             |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <b>Physical</b>                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |                                                   |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Size (Shaft Length x Housing Length x Housing Height x Shaft Diameter x Shaft Keyway)                                                                                                                                                                                                                                                                                                                         | 11.00 in x 5.25 in x 4.50 in x 1.50 in x 3/8 in | 279.4 mm x 133.4 mm x 114.3 mm x 38.1 mm x 9.5 mm | [5]                                                                                                                                                                                        |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Weight                                                                                                                                                                                                                                                                                                                                                                                                        | 9.5 lb                                          | 4.4 Kg                                            |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Mounting                                                                                                                                                                                                                                                                                                                                                                                                      | Keyed Shaft                                     | Keyed Shaft                                       |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Sensing Element                                                                                                                                                                                                                                                                                                                                                                                               | Strain Gage                                     | Strain Gage                                       |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Housing Material                                                                                                                                                                                                                                                                                                                                                                                              | Aluminum                                        | Aluminum                                          |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Shaft Material                                                                                                                                                                                                                                                                                                                                                                                                | Alloy Steel                                     | Alloy Steel                                       |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Electrical Connector                                                                                                                                                                                                                                                                                                                                                                                          | PT02H-10-6P                                     | PT02H-10-6P                                       |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Electrical Connection Position                                                                                                                                                                                                                                                                                                                                                                                | Top                                             | Top                                               |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| Maximum Speed                                                                                                                                                                                                                                                                                                                                                                                                 | 7900 RPM                                        | 7900 RPM                                          |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
| <p><i>All specifications are at room temperature unless otherwise specified.</i></p> <p>In the interest of constant product improvement, we reserve the right to change specifications without notice.</p> <p>ICP® is a registered trademark of PCB group, Inc.</p>                                                                                                                                           |                                                 |                                                   |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |
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| Entered: BLS                                                                                                                                                                                                                                                                                                                                                                                                  | Engineer: PE                                    | Sales: JC                                         | Approved: BLS                                                                                                                                                                              | Spec Number:          |              |              |           |               |              |                     |                     |                     |                     |              |
| Date:<br>03/29/2010                                                                                                                                                                                                                                                                                                                                                                                           | Date:<br>03/29/2010                             | Date:<br>03/29/2010                               | Date:<br>03/29/2010                                                                                                                                                                        | <b>45890</b>          |              |              |           |               |              |                     |                     |                     |                     |              |
| <div><div><p>A PCB GROUP COMPANY</p></div><div><p>Company: PCB Load &amp; Torque, Inc.<br/>Address: 24350 Indoplex Circle<br/>Farmington Hills, MI 48335<br/>UNITED STATES<br/>Phone: 866-684-7107<br/>Fax: 716-684-0987<br/>E-mail: ltinfo@pcbloadtorque.com<br/>Web site: http://www.pcbloadtorque.com</p></div></div> |                                                 |                                                   |                                                                                                                                                                                            |                       |              |              |           |               |              |                     |                     |                     |                     |              |